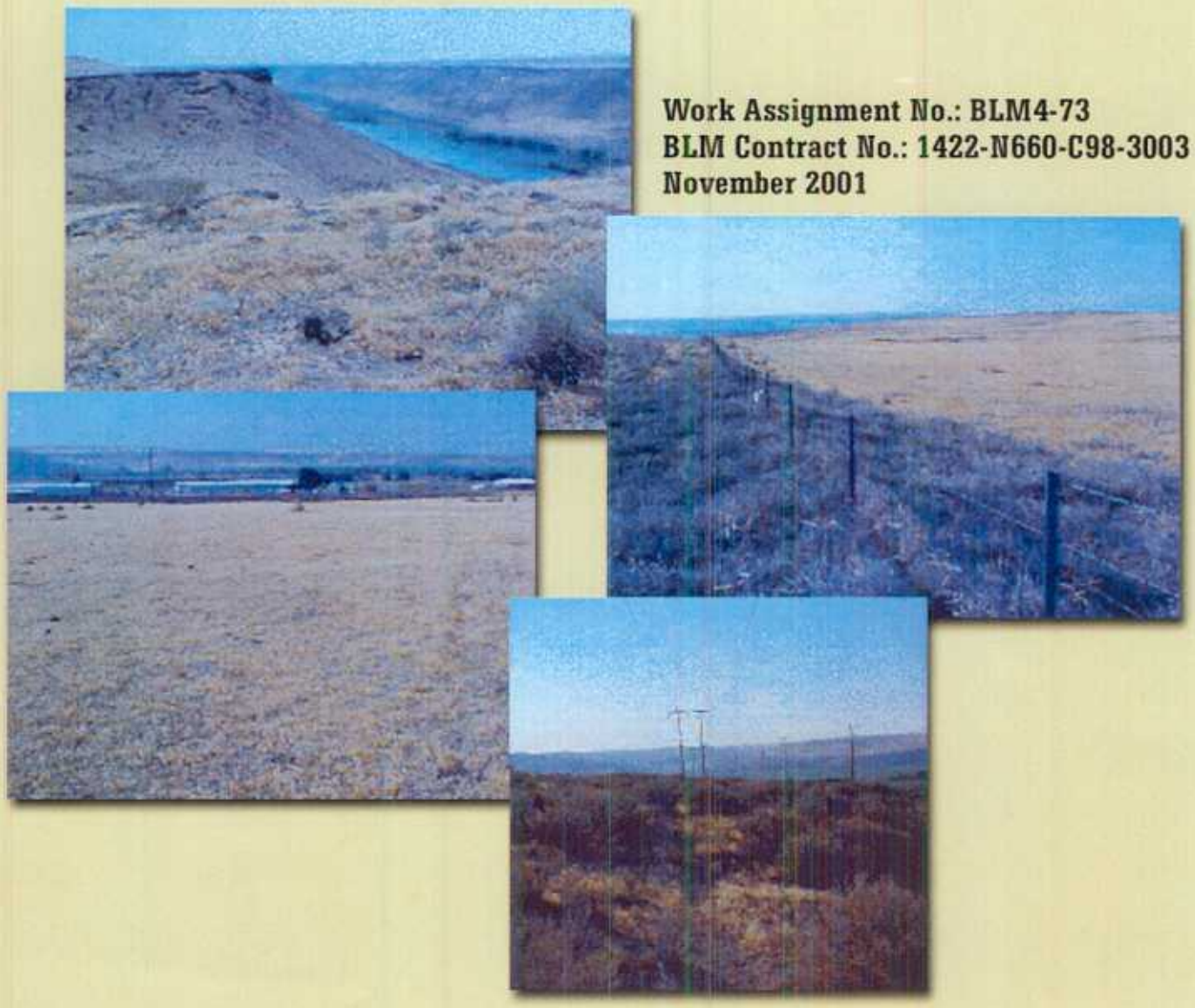
WILDLAND-URBAN INTERFACE COMMUNITIES-AT-RISK PROGRAM

Final Mitigation Plan Report
Lower Snake River District
Glenns Ferry Assessment Area



Work Assignment No.: BLM4-73
BLM Contract No.: 1422-N660-C98-3003
November 2001

DYNAMAC
CORPORATION

FINAL
WILDLAND-URBAN INTERFACE COMMUNITIES-AT-RISK MITIGATION ASSESSMENT

LOWER SNAKE RIVER DISTRICT
GLENNS FERRY ASSESSMENT AREA

Prepared for:

U.S. Department of Interior
Bureau of Land Management
Lower Snake River District
Boise, Idaho

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1.0 EXECUTIVE SUMMARY

During the 2000 fire season more than 6.8 million acres of public and private lands burned in wildfires, resulting in loss of property, damage to resources, and disruption of community services. Many of these fires occurred in wildland-urban interface areas and exceeded fire suppression capabilities. To reduce the risk of fire in the wildland-urban interface, the President of the United States directed the Secretaries of the Departments of Agriculture and the Interior to increase federal investments in projects to reduce the risk of wildfire in the wildland-urban interface. To this end, the Bureau of Land Management (BLM), Lower Snake River District is currently in the process of forming partnerships with local governments to plan fuels reduction treatments and other mitigation measures targeted at the wildland-urban interface in the vicinity of Federal lands. These partnerships are indicative of a shared responsibility to reduce wildland fire risks to communities.

The wildland-urban interface occurs where human structures meet or intermix with wildland vegetation. In certain situations, specific actions such as fuels reduction around communities, forestland and rangeland restoration, infrastructure improvements, and public education and outreach may reduce the risk of catastrophic fire in the wildland-urban interface. To this end, the BLM implemented the Communities-at-Risk Wildland-Urban Interface Program. The program seeks to reduce the hazard of wildland fires to communities through public outreach, the reduction or prevention of fuel build-up, and increasing the fire protection capabilities of communities. The Glenns Ferry community was selected by the BLM to assess the hazard of wildland fire and to identify specific actions that may reduce the risk.

Dynamac Corporation was contracted to support the BLM in their assessment of wildfire risk to the Glenns Ferry community in the wildland-urban interface. Dynamac scientists conducted fuel surveys by categorizing the vegetation, slope, and aspect of the land in the Glenns Ferry assessment area. The risk of wildland fire to homes, structures, and cultural resources on private land was also evaluated according to building materials, the presence of survivable space, road access, and the response time of the local fire department. Dynamac assessed the adequacy of the community's service infrastructure (including roads, water supplies, and fire fighting equipment) by systematic observation, and by interviewing community officials and fire prevention personnel. A community open house was held to disseminate information about the Communities-at-Risk, Wildland-Urban Interface Program to citizens, to afford them the opportunity to identify resources that are of value to the community, and to have them identify actions that may reduce the risk of wildland fire. The information gathered from the fuel

surveys, structural surveys, interviews, infrastructure assessments, and community profile was integrated into two reports: a hazard assessment report and a mitigation report. The following action items were identified to reduce the hazard of wildfire in the Glenns Ferry assessment area based on the synthesis of the two reports:

- Receive rural assistance grant to purchase new fire trucks, or form a cooperative agreement with BLM that would enable the Glenns Ferry Fire Department to use BLM fire equipment when needed.
- Develop an on-going education and outreach program throughout the assessment area to encourage firewise practices.
- Reduce fuel loads along railroad right-of-way.
- Provide support for fire fighter training.

2.0 GOALS AND OBJECTIVES

The goals and objectives of the Glenns Ferry wildfire hazard assessment and mitigation plan are to evaluate the hazards of wildland fire within the assessment area and then identify specific actions that could reduce the risks. The objectives are to decrease the chances of wildfire spreading from BLM lands onto private lands and from private lands onto BLM lands.

3.0 BACKGROUND

Wildland fire is an integral component of many forest and rangeland ecosystems. In the conterminous United States before European settlement, an estimated 145 million acres were annually consumed by wildfire. In comparison, only about 14 million acres are currently burned annually due to increased agriculture, urbanization, habitat fragmentation, and fire suppression programs. This change from the historical fire regime to the present day has caused a shift in the native vegetation composition and structure of fire-prone ecosystems resulting in a dangerously high accumulation of fuels. As a result, when wildland fires do occur, they may burn larger and hotter than those in the past and pose an increased risk to human welfare and ecological integrity.

The hazard of wildland fires is compounded by the increasing occurrence of human structures and activities in fire-prone ecosystems. The wildland-urban interface occurs where human structures meet or intermix with wildland vegetation. In certain situations, specific actions such as fuels reduction around communities, forestland and rangeland restoration, infrastructure improvements, and public outreach may reduce the risk of catastrophic fire in the wildland-urban

interface. To this end, the BLM implemented the Communities-at Risk Wildland-Urban Interface Program. The program seeks to reduce the hazard of wildland fires to communities through public education and outreach, the reduction or prevention of fuel build-up, and increasing the fire protection capabilities of communities. The Glenns Ferry community was selected by the BLM to assess the hazard of wildland fire and to identify specific actions that may reduce the risk.

4.0 EXISTING SITUATION

The Glenns Ferry Assessment Area is located approximately 70 miles southeast of Boise, Idaho and 50 miles west of Twin Falls, Idaho, in Elmore County. The assessment area included the towns of Hammett and Kings Hill, and consisted of portions of townships T04S R10E; T04S R11E; T05S R08E; T05S R09E; T05S R10E; T05S R11E; T06S R09E; T06S R10E; T06S R11E; T07S R09E; T07S R10E; and T07S (**Map 1**). The town of Glenns Ferry can be reached by exiting Interstate 84 at Exit 120 or 125.

The assessment area included areas of the Snake River valley and surrounding buttes, with elevation ranging from 2,600 to 3,200 feet above mean sea level (amsl). Rangeland, agriculture, and urban (developed commercial and residential) are the main land uses in the assessment area. Open bodies of water include the Snake River and several large irrigation canals. The dominant vegetation types are annual grass-forb, perennial grassland, and basin and Wyoming big sagebrush. Cheatgrass and other annual weeds are widespread throughout the assessment area and pose a hazard as flammable fuels. Agriculture production includes alfalfa, sugar beets, potatoes, wheat, beef, and dairy. Most of the crops are irrigated. The rangeland is important for wildlife habitat and livestock grazing.

The climate of the Glenns Ferry area is characterized by hot, dry summers with average daily high temperatures reaching 96" F in July, and an average daily summertime low of 55" F. Winter months are typically cool, with average daily temperatures from November to March ranging from the high 50's to the low 20's" F. Precipitation is typically low with an average annual precipitation of 9.58 inches. Most precipitation arrives during the November to January time period as snowfall (WRCC, 2001).

Cheatgrass and other annual weeds are widespread throughout the assessment area on both BLM land and private land. The occurrence of cheatgrass and the other annual weeds indicate excessive plant community and soil disturbance from such things as livestock grazing, agricultural activities, or frequent fire. When the annual weeds senesce, they become extremely flammable and pose a hazard to wildland fire protection. Agricultural crops such as wheat may also become flammable fuels when the plants senesce as well as the stubble left after harvesting. Lightning- and human-caused fires can easily occur when there is a buildup of fuels in the form of annual weeds and other flammable plants in rangeland and agricultural plant communities.

The results of the fuel survey are summarized as follows:

- **Slope:** Fifty percent of the survey sites occurred on slopes that were greater than 30 percent. The remaining sites occurred in equal proportions on low or moderate slopes.
- **Aspect:** Thirty-four percent of the sites had northern exposures, 23 percent were on east (or relatively level) facing slopes, and 43 percent faced south.
- **Elevation:** The elevation for all of the survey sites was less than 3,500 ft amsl.
- **Vegetation Type:** All of the sites received an "A" (low hazard) vegetation type rating because of the dominance of cheatgrass or medusahead.
- **Fuel Type:** All of the fuel survey sites were found to have small, light fuels.
- **Fuel Density:** Ninety-five percent of the sites had a continuous fuel bed because of the continuous nature of the understory grasses, especially cheatgrass. The remaining sites had non-continuous or broken moderate fuel density.
- **Fuel Bed Depth:** Seventy percent of the sites had a fuel bed depth of less than one foot, while 30 percent had a fuel depth between one and three feet.

The main points of the structural fire hazard assessment field survey are as follows:

- **Structure Density**: Of 266 sections were evaluated for structures, 94 percent rated as "less than one structure per 10 acres" (Class C); less than 1 percent of the sections had at least one structure per 5 acres (Class A) and 6 percent had one structure per 5 to 10 acres (Class B).
- **Proximity to Structures:** Eighty percent of the sections were rated as having flammable wildland fuels greater than 100 feet from the structures, 14 percent had wildland fuels between 40 and 100 feet, and 6 percent had wildland fuels less than 40 feet from the structures.

- **Predominant Building Materials:** Ninety-three percent of sections were rated as having a majority of homes with fire resistant roof and/or siding (Class A), 5 percent were rated as Class B, and 2 percent were classified as Class C,
- **Survivable Space:** Eighty-five percent of the sections contained improved survivable space around a majority of the homes (Class A), 11 percent of the sections were rated as having 10 to 50 percent of homes with survivable space (Class B), and 4 percent contained less than 10 percent of homes with survivable space (Class C).
- **Roads:** Sixty-four percent of the sections were rated with wide looped roads that were maintained, paved or solid, surfaced with shoulders (Class A); 29 percent of the sections had maintained two lane roads with no shoulders, and 7 percent of the sections had narrow single lane, minimally maintained roads (Class C).
- **Response Time:** Response times in the Glenns Ferry Assessment area are all 20-40 minutes (Class B) according to the Fire Chief of the Glenns Ferry Fire Department.
- **Access:** Sixty percent of the sections were identified as having multiple entrances and exits that were suitable for trucks with turnarounds (Class A); 33 percent of the sites had limited access routes (Class B), and the remaining 7 percent of the roads were narrow and dead-end roads.

The results of the Fuel Hazard Assessment are graphically illustrated in **Figures 1 and 2**. The graphs depict the percentage of assessment points that received a high, moderate, or low hazard ranking. Similarly, the results of the Structure Risk Assessment are graphically illustrated in **Figure 3**. It should be noted that the percentages depicted in Figure 3 are based on the 83 sections *with structures*, not the 266 sections surveyed within the assessment area (183 of which had no structures). Response times are not depicted because these were all within 40 minutes within the *entire* assessment area (100 percent were rated moderate risk.) The areas of greatest risk in terms of fuels and fire suppression are depicted on **Map 2**, in the Appendix.

Figure 1: Glenns Ferry Fuel Hazard Assessment Results (Topography)

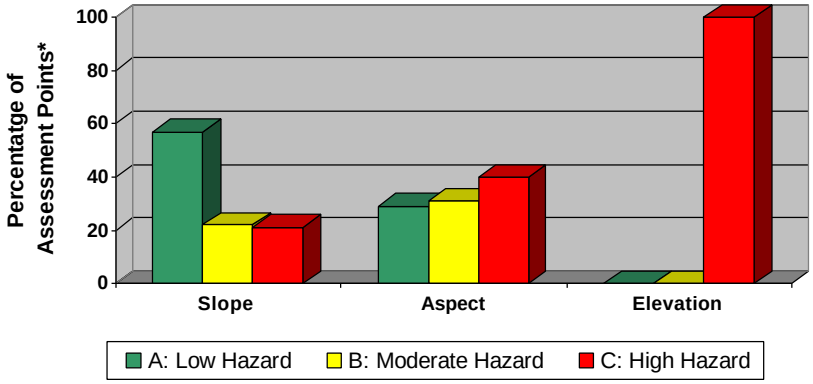
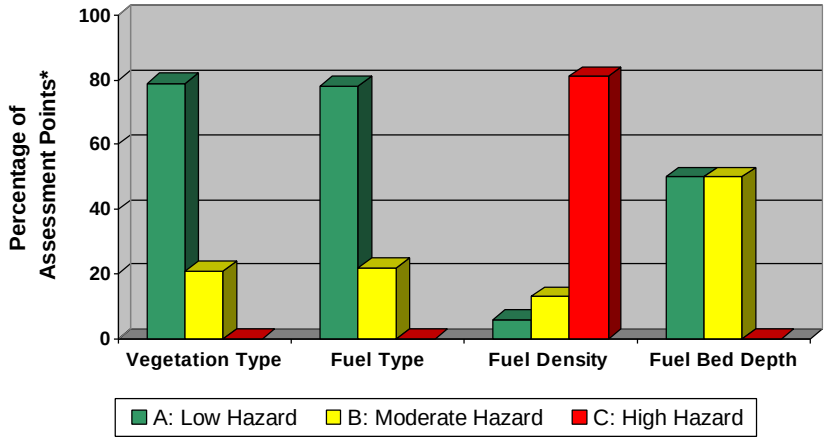
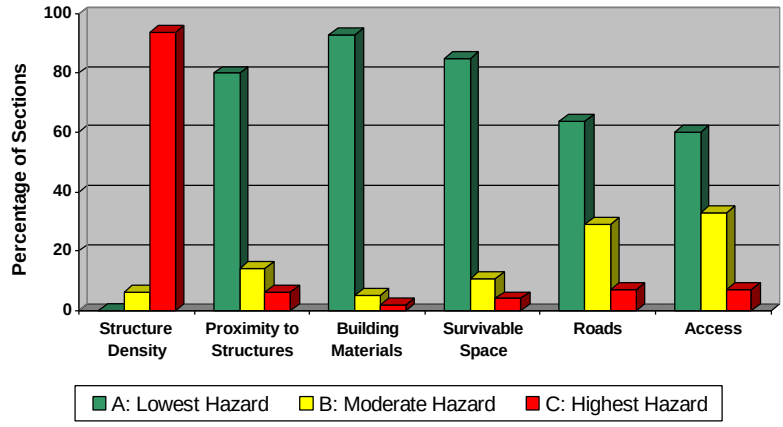


Figure 2: Glenns Ferry Fuel Hazard Assessment Results (Fuels)



* Based on 135 Assessment Points surveyed.

Figure 3: Glenns Ferry Structure Risk Assessment Results for 83 Sections with Structures



5.0 SUGGESTED ACTIONS TO ACHIEVE DESIRED CONDITIONS

Through discussions with community leaders, fire officials, disaster coordinators, and residents of Glenns Ferry and the surrounding wildland-urban interface lands, the following actions were suggested to improve fire preparedness and prevention measures along the Wildland-Urban Interface. Some of these have been developed into recommendations (See Section 8.0, Proposed Projects and Priority) for lessening the risk posed by fire.

- Establishing cooperative procedures with surrounding communities; including establishment of area-wide 911 system and evacuation plan that includes provisions for railroad de-railment.
- Maintaining an adequately equipped, well trained fire department.
- Decreased risk of fire and hazardous spills along the railroad corredor through cleanup and regular maintenance by the railroad.
- Establishing cooperation among the local authorities, BLM, and citizens to provide access to public land.
- Increasing the knowledge and understanding of businesses and residents to proper firewise activities such as landscaping, use of fire resistant building materials, proper access roads, and emergency evacuation procedures.
- Re-vegetation of burned areas with perennial grasses and brush.

6.0 NEED FOR ACTION

Wildlfire frequency in the Glenns Ferry assessment area is common and results from both natural and human causes. To reduce the hazards of wildfire in the assessment area both general and specific actions are needed.

General actions include improving public outreach to encourage firewise practices in the community and around homes and agricultural structures. Residents should be encouraged to create survivable space around homes and farms. Improved firewise practices are long-term in nature because they require continual adherence to reduce the hazard of wildfire. In addition, improving the vegetation cover through proper land management objectives should reduce the occurrence of annual weeds and decrease fuel flammability.

Specific actions to be taken include acquisition of appropriate firefighting equipment for the Fire Department. One possible method might be the formation of a cooperative agreement with BLM to allow the Glenns Ferry Fire Department to use BLM equipment when necessary, or the purchase of at least one new fire truck by the Glenns Ferry Fire Department through a rural assistance grant provided by BLM. Grants may also be available through the State of Idaho or FEMA. Actions of this type are needed because the Glenns Ferry Fire Department's trucks are old, out of date, and could present mechanical or operational problems at the time of a fire emergency.

7.0 METHODOLOGY

The mitigation actions proposed herein for the Glenns Ferry assessment area are based on information acquired from fuel and structure surveys, a public meeting, and interviews of community officials. The majority of information presented in this report was gathered during the time period between August 20 and 24, 2001.

The fire-hazard assessment area surrounding the community of Glenns Ferry was defined by BLM. The BLM initially assigned 168 fuel survey points in the assessment area to be evaluated by Dynamac (**Map 1**, Appendix); the number of points was later reduced to 135. The fuel survey points were located in sections where BLM owned a portion of the land. The focus of the fuel survey occurred in the southern and eastern portions of the assessment area since this was where the majority of BLM land in the area is located. At each survey point, digital photographs were taken of the surrounding area in the four cardinal directions. A fire hazard assessment was also completed which rated the characteristic of the land features and fuel sources. The rating elements included slope, aspect, elevation, fuel type, fuel density, and fuel bed depth and were assigned to a risk category of low, medium, or high as defined by BLM (See Hazard Assessment Report, Table 3, or Appendix B).

Dynamac staff also collected information on the flammability and defensibility of structures on private land from 266 sections located within one mile of BLM lands within the assessment area. The structural hazard assessment rated the structures, building material and the distance of flammable fuels to the structures located within a section. The rating elements included structure density, proximity of flammable fuels to the structures, building materials, survivable space, and type of roads, response times, and accessibility. Each category was assigned a hazard rating of low, medium, or high, as defined by BLM (See Hazard Assessment Report, Table 4, or Appendix C).

A public meeting was convened on August 21, 2001, at Glenns Ferry City Hall from 6:00 to 9:00 pm. The community was invited to attend through a newspaper article in the local paper and announcements posted in public places such as stores, post offices, restaurants and service stations by BLM and the Student Conservation Association (SCA). Dynamac and BLM staff attended the public meeting to handout firewise brochures, obtain information from the community on hazardous fire situations and desired conditions, and be an informational resource to those attending the meeting. Despite excellent publicity efforts and outreach, the public response to the meeting was low. Members of the public that attended filled out a survey form which asked residents how safe they thought their town was, what values were at risk, and what their opinion was regarding the best way to lessen the towns risk of wildland-urban interface fire (See Hazard Assessment Report, Appendix D.)

The Dynamac Community Relations Specialist conducted interviews with numerous local public officials and residents. Individuals or groups interviewed include Glenns Ferry Fire Chief Bob Janousek; Mayor Glenn Thompson; Elmore County Commissioner Larry Rose; City Council Members Earl Gardner, Dewey Crane and Joanne Lanham; Elmore County Sheriff Rick Layher; and Elmore County Disaster Management Coordinator Nick Schilz. Dynamac also met with the Elmore County Planning and Zoning Administrative Assistant Bob Matson regarding building density information and Fire and Zoning Ordinances. (See Hazard Assessment Report, Appendix E.) A second public meeting was held on October 25, 2001, to present the findings of the assessment and to obtain additional community input.

8.0 PROPOSED PROJECTS AND PRIORITY

The projects proposed are based on information obtained from the fuel and structure surveys, community meeting, and interviews. The following specific action items in order of priority were identified to reduce the hazard of wildfire in the Glenns Ferry assessment area:

- Support infrastructure improvements.
- Develop an on-going education and outreach program throughout the assessment area to encourage firewise practices.
- Support formal training for all volunteer fire fighters.
- Provide adequate protection from derailments along the railroad corridor, including annual maintenance by the railroad and establishing an evacuation plan that takes railroad accidents into account.

8.1 Infrastructure Improvements

Glenns Ferry Fire Department has five older fire trucks, some in need of replacement, and they would like additional fire trucks. Their current equipment is outdated and somewhat run-down. Neither the Glenns Ferry Fire Department nor Glenns Ferry residents have the financial resources to purchase these trucks. Glenns Ferry would like to receive a rural assistance grant from BLM, which would assist the fire department in obtaining two new fire trucks, or possibly form a cooperative agreement with BLM that would enable the Glenns Ferry Fire Department to sign out and utilize equipment from BLM when necessary. Grants from alternative sources may also be an option.

Project Purpose: The new trucks would decrease response times to most locations in the Glenns Ferry assessment area and would likely decrease the cost of insurance at the fire department.

Project Timing: The estimated costs of a supplemental water system should be identified first. Implementation of the project is contingent on available funding.

Project Necessity: Infrastructure improvements to increase the Glenns Ferry Fire Department's capability to suppress wildland fires should reduce the risk of loss from fire in the wildland-urban interface.

8.2 Community Education and Outreach

Purpose of Public Education and Outreach: The purpose of the community-wide education program is to 1) educate the public of the dangers of wildfire in the area, 2) urge residents to take responsibility in reducing the risk of wildfire and to create defensible space around their residence, and 3) increase awareness of the natural role of low-intensity fire in woodland or grassland ecosystems and the benefits of prescribed burning or occasionally managing natural wildland fires to achieve ecological benefits, while maintaining firefighter and public safety as the top priority. The public education and outreach program will be co-sponsored by the BLM and Glenns Ferry Fire Department through a partnership agreement.

Additionally, the BLM will provide support as needed though the partnership to assist the Glenns Ferry Fire Department in educating developers and property owners about, and implementing,

county firewise building codes in those areas outside of Glenns Ferry city limits but within the fire department's response area. Glenns Ferry officials will take the lead in this effort with the support of the BLM.

Outreach Occurrence: An annual "Firewise Clean-Up Day" is one tool that is recommended to encourage residents to create defensible/survivable space around their residence. In conjunction with the Firewise Clean-Up Day, specific demonstration projects may be designed and utilized to educate residents about longer-term investments they could make to increase fire safety, such as replacing flammable grasses, shrubs and trees with less flammable varieties; landscape design workshops, use of firewise building materials, etc. The clean-up day would occur in conjunction with public demonstrations, education programs in schools, and speakers on wildfire and firewise practices.

Outreach Timing: The annual "Firewise Clean-up Day", school education program, and public demonstrations would be most effective in the spring to remind people to prepare their properties for the coming fire season.

Outreach Necessity: Citizen involvement in wildfire mitigation in and around communities is a necessary element for success. Public education and outreach is an effective means of engaging the public in the process of reducing risks to a community. Such education and outreach has been shown to motivate homeowners to take measures around their individual property, thereby contributing to the reduction of wildfire hazards in a community. Further, a community education and outreach program will help identify problems and solutions for both federal and private landowners, and offer opportunities for partnerships and agreements.

8.3 Railroad Corridor Maintenance and Evacuation Planning

Several officials and residents expressed concern regarding the hazard posed by the railroad. The Fire Department indicated that the railroad corridor is one of the most hazardous areas in the region, as sparks can ignite dry vegetation and a derailment can pose risk of hazardous material spills. Mitigation of this risk requires cooperation among the railroad, BLM, and the affected communities in the county. The railroad could participate in cleanup along the corridor in the town areas, with the cooperation of businesses and landowners. The railroad could undertake fuels reduction along its right-of-way through rangeland and agricultural areas in partnership with BLM and landowners. Overall, annual maintenance of the railroad right-of-way is needed to reduce wildfire risk to these communities.

Elmore County officials described several measures to enhance wildfire response and citizen and property safety. Incident command units are being established to facilitate emergency response county-wide. Enhancement of the 911 system is in progress, addresses are being standardized, and the area will be mapped by GPS. The Elmore County Evacuation Plan, in effect since 1992, is under revision. The updated evacuation plan should take into account the possibility of railroad derailments and hazardous materials contamination.

Project Timing: BLM generally times projects in the following manner. In Year One projects are identified and justified, and objectives are determined. Field surveys begin. In Year Two projects that require compliance with the National Environmental Policy Act (NEPA) are planned, analyzed, and designed. Projects that do not require NEPA compliance begin implementation. In Year Three, NEPA projects begin implementation. All steps are contingent on available funding. In Year Four, project monitoring begins.

Project Necessity: Maintenance of railroad rights-of-way through fuels reduction has been shown to be an effective means of reducing the risk of fires igniting from sparks emitted from the trains. This reduces the risks of fires within and around communities, and consequently reduces the risk of loss from fire in the wildland-urban interface.

8.4 Fire Fighter Training

The Glenns Ferry Fire Department stated the community would like to see a well-equipped, well-trained Fire Department. At this time the Fire Department believes they are well trained; however, a formal course in wildfire fighting that is taught by a certified NFPA instructor may be beneficial at some point. A rural assistance fire department training program is recommended to educate the squad in wildland and structural firefighting methods. This program would enable the Glenns Ferry Fire Department to learn from a certified NFPA instructor. Recommended courses include the hazmat and wildland firefighting methods classes that have been mentioned by other departments in communities Dynamac has surveyed. These might include S-130, S-190, and the “essentials” classes, which are offered by BLM. Courses such as these offered to Glenns Ferry and other rural fire departments in the area, and subsidized by BLM, would enable squads such as that in Glenns Ferry to vastly improve their training capabilities.

9.0 POTENTIAL SOURCES OF STATE FUNDING

Idaho Department of Lands representative Kurt Houston, who is based out of IDL's Boise office, provided the following information. Communities-at-Risk may benefit from these State-administered grant programs, which provide financial assistance for various types of fire safety-, fire suppression- and fire education-related projects, as well as stewardship activities.

Idaho Fire Assistance Program: A cost-share program designed to assist fire service organizations with organizing, training, and purchasing equipment for fire protection and suppression. Open application period is from May 1 through June 15 each year. Contact Fire Warden Kurt Houston at the Idaho Department of Lands office in Boise at (208) 334-3488 for more information and applications.

Volunteer Fire Assistance Program: A cost-share program with federal funds administered by the State of Idaho. The rural community must have a population of less than 10,000. Only those projects to organize, train, and equip fire service organizations qualify for financial assistance. Open application period is from October 1 through December 31 each year. Contact Fire Warden Kurt Houston at the Idaho Department of Lands office in Boise at (208) 334-3488 for more information and applications.

Federal Excess Personal Property Program: An equipment loaning program for fire service organizations with populations less than 10,000 residents. Usable fire related equipment is loaned to the organization until such time the organization no longer wants it. Titles for vehicles remain with the federal government. Applications are continuously accepted. Contact Fire Warden Kurt Houston at the Idaho Department of Lands office in Boise at (208) 334-3488 for more information and applications.

Forest Incentive Program: Federal cost-share funds administered by the Natural Resources Conservation Service (NRCS). The Forestry Incentives Program (FIP) supports good forest management practices on privately owned, non-industrial forest lands nationwide. FIP is designed to benefit the environment while meeting future demands for wood products. Eligible practices are tree planting, timber stand improvement, site preparation for natural regeneration, and other related activities. FIP is available in counties designated by a Forest Service survey of eligible private timber acreage. Depending on funding, the open application period varies. Contact the nearest NRCS or Tim Kennedy at the Boise IDL for more information and

applications. Additional information on the program and NCRS contacts is available at http://id.nrcs.usda.gov/programs.htm.

Stewardship Incentive Program: Federal cost-share funds administered by the NRCS. The Stewardship Incentive Program provides technical and financial assistance to encourage non-industrial private forest landowners to keep their lands and natural resources productive and healthy. Qualifying land includes rural lands with existing tree cover or land suitable for growing trees and which is owned by a private individual, group, association, corporation, Indian tribe, or other legal private entity. Eligible landowners must have an approved Forest Stewardship Plan and own 1,000 or fewer acres of qualifying land. Authorizations may be obtained for exceptions of up to 5,000 acres. Depending on funding, the open application period varies. Contact the nearest NRCS or Tim Kennedy at the Boise IDL for more information and applications. Additional information on the program and NCRS contacts is available at http://id.nrcs.usda.gov/programs.htm.

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Video: Firewise Landscaping, Part 3-Maintenance.

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Appendix: Maps